

- 10010391-120701
1. An article packaging device comprising:
an inlet end,
an outlet end,
a body formed by an inner core having an inlet opening and an outlet opening, and
a passageway therebetween,
a casing comprising a casing wall around the body, the casing joined to the body
with a storage space between them,
a tubular sheet within the storage space, the tubular sheet dispensable through a
dispensing opening between the body and the casing and into the inlet
opening of the inner core, and
a means for gathering the tubular sheet and separating the packaged article from a
trailing portion of the tubular sheet and the device.
 2. The article packaging device according to Claim 1, wherein the separating means
comprises a cutting means for cutting through the trailing portion of the tubular sheet to
form a packaged article.
 3. The article packaging device according to Claims 1, wherein the tubular sheet
includes an adhesive.
 4. The article packaging device according to Claim 1, wherein the separating means
comprises at least one separable region of the tubular sheet, whereby the tubular sheet can
be separated at the separable region more easily than elsewhere on the tubular sheet.
 5. The article packaging device according to Claim 1, wherein the tubular sheet
includes a leading portion, a trailing portion and an inner surface, the inner surface
comprising an adhesive material, whereby the leading portion and the trailing portion can
be closed about at least one article located therebetween with the adhesive material,
thereby forming a packaged article.

6. The article packaging device according to Claim 1, wherein the tubular sheet comprises a three-dimensional film having an inner surface that comprises a plurality of recessed pressure sensitive adhesive sites and a plurality of collapsible protrusions that serve as stand-offs to prevent premature sticking of the adhesive sites to a target surface until a force sufficient to collapse the protrusions has been applied to the opposed surface of the film.
7. The article package device according to Claim 6, wherein the article to be packaged is a waste-filled disposable absorbent article.
8. The article packaging device according to Claim 1, wherein the inlet opening is circular or oval.
9. The article packaging device according to Claim 1, wherein the passageway is curved.
10. A method for manually forming a packaged article, comprising the steps of:
providing a packaging device including an inlet end, an outlet end, a passageway
and a tubular sheet having a leading portion:
dispensing the leading portion into the passageway,
gathering and closing the leading portion to form a receiving pouch within the
passageway,
inserting an article to be packaged into the receiving pouch through the inlet end,
then in any sequence,
gathering the trailing portion behind the article, thereby forming an individually
packaged article,
closing the gathered trailing portion, and
separating the packaged article from the tubular sheet at the closed gathered
trailing portion.

11. An article packaging device comprising:
an inlet end,
an outlet end,
a body formed by an inner core having an inlet opening and an outlet opening, and
a passageway therebetween,
a casing comprising a casing wall around the body, the casing joined to the body
with a storage space between them, and
a tubular sheet with two surfaces within the storage space, comprising an adhesive
disposed on at least one surface, the tubular sheet dispensable through a
dispensing opening between the body and the casing and into the inlet
opening of the inner core.
12. The method of Claim 11, wherein the packaged article can remain closed at an
ambient temperature of 35°C with an internal differential pressure of about +20 mm Hg or
more.
13. The article packaging device of claim 1, wherein the tubular sheet is in a layered
stack.
14. The article packaging device according to Claim 1, wherein the tubular sheet
comprises a three-dimensional film having an inner surface that comprises a plurality of
recessed pressure sensitive adhesive sites and a plurality of collapsible protrusions that
serve as stand-offs to prevent premature sticking of the adhesive sites to a target surface
until a force sufficient to collapse the protrusions has been applied to the opposed surface
of the film.
15. An article packaging device comprising:
an inlet end,
an outlet end,
a body formed by an inner core having an inlet opening and an outlet opening, and
a passageway therebetween,

a casing comprising a casing wall around the body, the casing joined to the body with a storage space between them, and
a tubular sheet with two surfaces within the storage space, comprising an adhesive disposed on at least one surface, the tubular sheet dispensable through a dispensing opening between the body and the casing and into the inlet opening of the inner core, and
the device having a compact dimension of a height along a vertical axis less than 20 centimeters and a width along a horizontal axis of less than 17 centimeters.

16. The article packaging device of claim 1, wherein the tubular sheet is in a layered stack.
17. The method of Claim 11, wherein the packaged article can remain closed at an ambient temperature of 35°C with an internal differential pressure of about +20 mm Hg or more.
18. The article packaging device according to Claim 15, wherein the tubular sheet comprises a three-dimensional film having an inner surface that comprises a plurality of recessed pressure sensitive adhesive sites and a plurality of collapsible protrusions that serve as stand-offs to prevent premature sticking of the adhesive sites to a target surface until a force sufficient to collapse the protrusions has been applied to the opposed surface of the film.
19. An apparatus for forming a pleated layered pack of a tubular sheet with an outer surface, and adhesive on a tubular sheet inner surface, the apparatus comprising:
a central mandrel having a mandrel base end, and a central mandrel axis,
a plunger capable of movement along the central mandrel axis between a forward position and a base position, the plunger having a tubular sheet receiving end, a plunger forward end, a plunger base end, the forward end having an outer ring having a diameter, the outer ring conformed to engage the outer surface of the tubular sheet when the plunger moves from a forward

position toward a base position, whereby the tubular sheet is engaged by the outer ring and pulled toward the base position and formed into a pleat, a reciprocating means having a connector affixed to the plunger, for reciprocating the plunger along the axis of the central mandrel between the forward position and the base position, and a pleat retaining means to restrain movement of a pleat, whereby the outer ring does not engage the tubular sheet when the plunger moves from the back position to the forward position.

20. The apparatus according to claim 15, further comprising an indexing means whereby the distance between the pickup position and the deposit position is maintained substantially constant.